

WHAT IS CLAIMED IS:

1. A method of supporting enhanced 911 (E911) emergency services in a network access device, comprising:
  - (a) assigning a physical location identifier to an input port of the network access device;
  - (b) detecting a Voice over Internet Protocol (VoIP) telephone coupled to said input port;
  - (c) authenticating said VoIP telephone, wherein said authenticating comprises receiving a unique device identifier from said VoIP telephone; and
  - (d) transmitting said unique device identifier and said physical location identifier to an E911 database management system, thereby permitting said E911 database management system to store said physical location identifier in association with said unique device identifier.
2. The method of claim 1, wherein step (c) includes authenticating said VoIP telephone in accordance with an IEEE 802.1x protocol.
3. The method of claim 1, wherein step (a) includes assigning a physical location identifier to said input port that corresponds to a physical location of a termination point of said input port.
4. The method of claim 1, wherein step (c) includes receiving a unique device identifier that comprises a telephone number of said VoIP telephone.
5. The method of claim 1, wherein step (c) includes receiving a unique device identifier that comprises an Internet Protocol (IP) address of said VoIP telephone.

6. The method of claim 1, wherein step (c) includes receiving a unique device identifier that comprises a media access control (MAC) address of said VoIP telephone.

7. The method of claim 1, wherein step (d) includes transmitting said unique device identifier and said physical location identifier to a local location information server (LIS) that is communicatively coupled to said E911 database management system.

8. A network access device that supports enhanced 911 (E911) emergency services, comprising:

- an input port;

- a switching fabric for routing data received via said input port to at least one output port; and

- control logic adapted to

- assign a physical location identifier to said input port,

- authenticate a VoIP telephone when said VoIP phone is coupled to said input port, wherein said authentication comprises receiving a unique device identifier from said VoIP telephone , and

- transmit said physical location identifier and said unique device identifier to an E911 database management system, thereby permitting said E911 database management system to store said physical location identifier in association with said unique device identifier.

9. The device of claim 8, wherein said control logic is adapted to authenticate said VoIP telephone in accordance with an IEEE 802.1x protocol.

10. The device of claim 8, wherein said control logic is adapted to assign a physical location identifier to said input port that corresponds to a physical location of a termination point of said port.

11. The device of claim 8, wherein said control logic is adapted to receive a unique device identifier comprising a telephone number of said VoIP telephone.

12. The device of claim 8, wherein said control logic is adapted to receive a unique device identifier comprising an Internet Protocol (IP) address of said VoIP telephone.

13. The device of claim 8, wherein said control logic is adapted to receive a unique device identifier comprising a media access control (MAC) address of said VoIP telephone.

14. The device of claim 8, wherein said control logic is adapted to transmit said unique device identifier and said physical location identifier to a local location information server (LIS) that is communicatively coupled to said E911 database management system.

15. A network system for supporting enhanced 911 (E911) emergency services, comprising:

- a host network communicatively coupled to an E911 database management system;

- a network access device communicatively coupled to said host network; and

- a Voice over Internet Protocol (VoIP) telephone communicatively coupled to an input port of said network access device;

wherein said network access device is adapted to assign a physical location identifier to said input port, to authenticate said VoIP telephone, wherein said authentication comprises receiving a unique device identifier from said VoIP telephone, and to transmit said location identifier and said unique device identifier to said E911 database management system;

thereby permitting said E911 database management system to store said physical location identifier in association with said unique device identifier.

16. The system of claim 15, wherein said network access device is adapted to authenticate said VoIP telephone in accordance with an IEEE 802.1x protocol.

17. The system of claim 15, wherein said network access device is adapted to assign a physical location identifier to said input port that corresponds to a physical location of a termination point of said input port.

18. The system of claim 15, wherein said network access device is adapted to receive a unique device identifier that comprises a telephone number of said VoIP telephone.

19. The system of claim 15, wherein said network access device is adapted to receive a unique device identifier that comprises an Internet Protocol (IP) address of said VoIP telephone.

20. The system of claim 15, wherein said network access device is adapted to receive a unique device identifier that comprises a media access control (MAC) address of said VoIP telephone.

21. The system of claim 15, wherein said network access device is adapted to transmit said unique device identifier and said physical location identifier to

a local location information server (LIS) that is communicatively coupled to said E911 database management system.

22. A method of supporting enhanced 911 (E911) emergency services in a network access device, comprising:

- (a) assigning a physical location identifier to an input port of the network access device;
- (b) transmitting an automatic report to an E911 database management system (DBMS) when a user device is coupled to said input port;
- (c) transmitting a unique device identifier of said user device to said E911 DBMS in response to a first query from said E911 DBMS; and
- (d) if said user device is a VoIP telephone, then transmitting said physical location identifier to said E911 DBMS in response to a second query from said E911 DBMS;

whereby said E911 DBMS updates an automatic location identification database with said physical location identifier of said VoIP telephone.

23. The method of claim 22, wherein step (a) includes assigning a physical location identifier to said input port that corresponds to a physical location of a termination point of said input port.

24. The method of claim 22, wherein step (b) includes transmitting a Simple Network Management Protocol (SNMP) trap that has a destination address corresponding to said E911 DBMS when said user device is coupled to said input port.

25. The method of claim 24, wherein step (b) includes transmitting said SNMP trap via a local Public Service Answering Point (PSAP).

26. The method of claim 22, wherein step (c) includes transmitting a Media Access Control (MAC) address in response to a first SNMP read

command from said E911 DBMS, whereby said E911 DBMS determines whether said user device is a VoIP telephone.

27. The method of claim 22, wherein step (d) includes transmitting said physical location identifier in response to a second SNMP read command from said E911 DBMS.

28. A network access device that supports enhanced 911 (E911) emergency services, comprising:

- an input port;
- a switching fabric for routing data received via said input port to at least one output port; and
- control logic adapted to
  - assign a physical location identifier to said input port,
  - transmit an automatic report to an E911 database management system (DBMS) when a user device is coupled to said input port,
  - transmit a unique device identifier to said E911 DBMS in response to a first query from said E911 DBMS, whereby said E911 DBMS determines whether said user device is a VoIP telephone, and
  - if said user device is a VoIP telephone, transmit said physical location identifier to said E911 DBMS in response to a second query from said E911 DBMS, thereby permitting said E911 database management system to store said physical location identifier in association with said unique device identifier.

29. The device of claim 28, wherein said physical location identifier corresponds to a physical location of a termination point of said input port.

30. The device of claim 28, wherein said automatic report is a Simple Network Management Protocol (SNMP) trap that has a destination address corresponding to said E911 DBMS.

31. The device of claim 30, wherein said SNMP trap is transmitted via a local Public Service Answering Point (PSAP).

32. The device of claim 28, wherein said unique device identifier is a Media Access Control (MAC) address.

33. The device of claim 28, wherein said first and second queries are SNMP read commands from said E911 DBMS.

34. A network system for supporting enhanced 911 (E911) emergency services, comprising:

- a host network communicatively coupled to an E911 database management system (DBMS);

- a network access device communicatively coupled to said host network; and

- a user device communicatively coupled to an input port of said network access device;

- wherein said network access device is adapted to assign a physical location identifier to said input port, to automatically transmit a report to said E911 DBMS when said user device is coupled to said input port, to transmit a unique device identifier to said E911 DBMS in response to a first query from said E911 DBMS, and, if said user device is a VoIP telephone, to transmit said physical location identifier to said E911 DBMS in response to a second query from said E911 DBMS;

- thereby permitting said E911 database management system to store said physical location identifier in association with said unique device identifier.

35. The system of claim 34, wherein said physical location identifier corresponds to a physical location of a termination point of said input port.

36. The system of claim 34, wherein said automatically transmitted report is a Simple Network Management Protocol (SNMP) trap that has a destination address corresponding to said E911 DBMS.

37. The system of claim 36, wherein said SNMP trap is transmitted via a local Public Service Answering Point (PSAP).

38. The system of claim 34, wherein said unique device identifier is a Media Access Control (MAC) address.

39. The system of claim 34, wherein said first and second queries are SNMP read commands from said E911 DBMS.